# Scouting CAM

## INSTRUCTION MANUAL

Model #: KG780NV

12-11

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## INTRODUCTION

### About the KEEPGUARD CAM

**The KeepGuard Cam** is a digital scouting camera. It can be triggered by any movement of game in a location, detected by a highly sensitive Passive Infra-Red (PIR) motion sensor, and then take high quality pictures (up to 8MP still photos), or video clips.

Battery life has long been one of the biggest strengths of **the KeepGuard Cam**. This camera is no different. It has low stand-by current and low day/night power consumptions. **The KeepGuard Cam** is a rock star when it comes to battery consumption. It consumes very little power (less than 0.28mA) in a stand by (surveillance) state. This means it can deliver up to six months stand-by operation time when the device is powered by eight AA alkaline batteries, and up to twelve months utilizing lithium AA batteries. Once motion in the monitored area is detected, the digital camera unit will be triggered (typically within one second) and then automatically take photos or videos according to previously programmed settings.

The **KeepGuard Cam** is equipped with built-in infrared LEDs that function as a flash. It delivers clear photos or videos (in black & white) even in the dark and it can take color photos or videos under sufficient daylight. The **KeepGuard Cam** is designed for outdoor use and is resistant against water and snow.

Your trail camera is one of the latest generations of **KeepGuard Trail Cam,** and includes many new or improved features, including:

• Auto PIR Sensitivity-the camera monitors ambient temperature conditions and automatically adjusts the sensor/trigger signal to be more sensitive to slight variations in temperature on hot days, less sensitive on cold days.

• Hyper Night Vision-The IR LED Flash array now has increased range, brighter output and better coverage for improved nighttime images. The nighttime pictures are clear and bright.

• Timed Scan - The “time lapse” feature added in last year’s models has been enhanced with the addition of the option for a second block of recording with its own start/stop times. Trigger signals generated by nearby wildlife activity will still generate additional photos/videos as they normally would, independently of the Timed Scan operation.

• IR LED Control - prevents overexposed flash photos in close range applications.

The **KeepGuard Cam** has many more features such as Video with Audio, wide screen or full screen format still photos, imprint able camera name (user set) along with current data including temperature and moon phase.

**Applications**

The **KeepGuard Cam** can be used as a

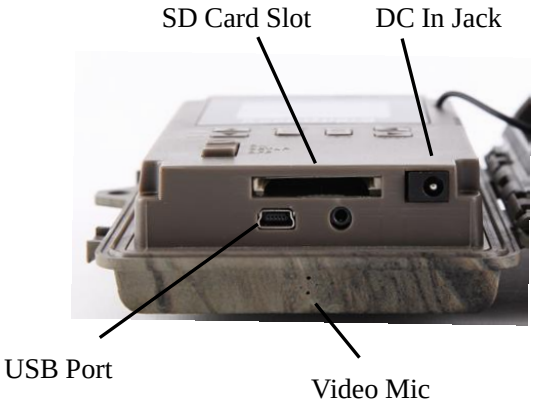
- Trail /Game Camera for hunting or scouting game.
- Motion-triggered Camera: for Home, Office and Commune.
- All other Outdoor Surveillance where Invasion Evidence is needed.

## PARTS AND CONTROLS

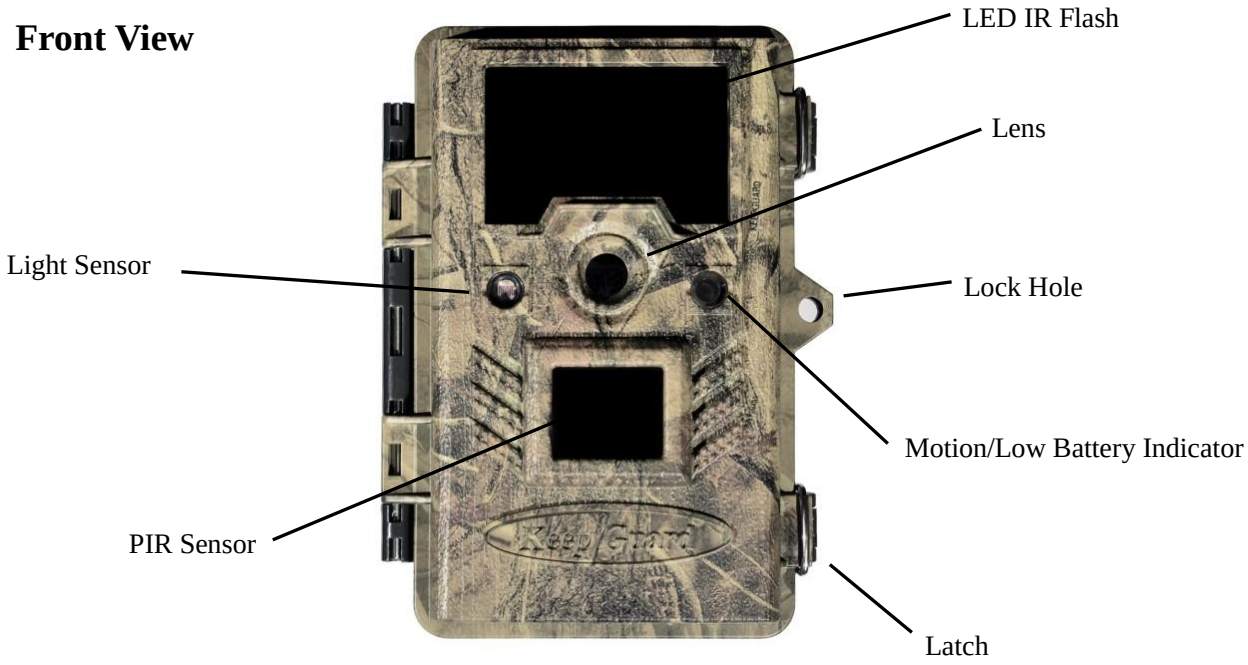
**The KeepGuard Cam** provides the following connections for external devices: USB port, SD card slot and external DC power (**Fig. 1**). A three way power switch is used to select the main operating modes: **OFF**, **SETUP**, and **ON (Fig. 2**).

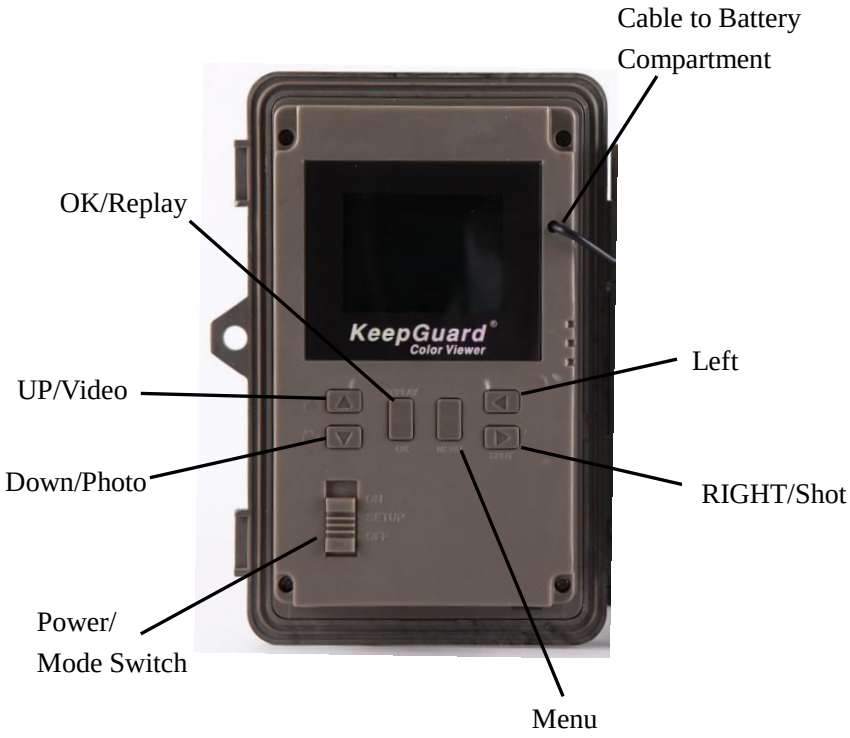
A control key interface with six keys is primarily used in SETUP mode to select operational functions and parameters. As shown in **Fig. 2**, these keys are: **UP, DOWN, LEFT, RIGHT, OK** and **MENU.** Four of the keys can also perform a second function (shortcut operations in **SETUP** mode) in addition to their main function. The **DOWN** key can be used to set the Video mode (movie camera icon), and the **UP** key can set the camera to Photo mode (still camera icon). The **RIGHT** key also serves as the manual shutter ("SHOT") button of the camera and the **OK** key switches the camera to the playback ("REPLAY") mode. These secondary functions are indicated by icons or text above the key as shown in **Fig. 2**.

**Figure 1: Connections For External Devices**



## Figure 2: Button and Switch Guide



## INSTALLING THE BATTERIES and SD CARD

Before you begin learning how to use your **KeepGuard Cam,** you will first need to install a set of batteries and insert an SD card. Although that may only take you a minute, there are some important notes about both batteries and SD cards you should be aware of, so please take the time to **read the following directions and cautions:**

**Battery Slot**

| | | | |
|---|---|---|---|
| **1-** | **3+** | **5+** | **7-** |
| **2+** | **4-** | **6-** | **8+** |

### Loading Batteries

After opening the two latches on the right side of the **KeepGuard Cam**, you will see that the **KeepGuard Cam** has eight battery slots. Starting at the top of the battery compartment slots 1, 2, 3 and 4 form one group, while slots 5, 6, 7 and 8 form the other group, each providing 6 volts in parallel. For maximum battery life, you should install a full set of eight batteries.

The **KeepGuard Cam** may also be operated by just four batteries installed in the top group only (see **right**), starting at slot 1. Battery life will be shorter with 4 batteries, but the camera will operate normally. Whether you use 4 or 8, be sure to insert each battery with correct polarity (negative or "flat" end against the long spring of each battery slot). **KeepGuard** recommends using eight new lithium AA (Energizer® brand) or alkaline AA batteries. NiMh Rechargeable batteries can also be used, but they might have a shorter life span due to their reduced efficiency over time and at low temperature. It is also possible to use a lead-acid external battery cell with 6V output or suitable AC adapter - see below for more details.

### Using an External Power Source (optional, user provided)

Optionally, you can connect an external 6V DC power source to the "DC In" jack at the bottom of the **KeepGuard Cam**. It is recommended to use a power source with a current output greater than 1000mA. However, during bright daytime operation when no flash is required, the **KeepGuard Cam** can function with much less current (>400mA). Please use a compatible power source cable (not provided) to connect the external DC power source with the power input jack of the **KeepGuard Cam,** making sure that the polarity is correct.

**Note:** The power connector is a 4.0 x 1.7mm coaxial **DC** power plug with positive ”tip” (inside pin) polarity (Radio Shack P/274-1532 or equivalent). If both an external power source is connected and batteries are installed, the

**KeepGuard Cam** will be powered by the external power source. When the batteries become weak, the low-battery indicator LED will glow blue, indicating the batteries should be changed.

**Inserting the SD Card**

The **KeepGuard Cams** have 32MB internal memory, which can hold only about 18 photos (12MP resolution). This is handy for testing and getting familiar with the camera, but you will no doubt want to leave the camera unattended for longer than a day, so using an SD card is recommended. Insert the SD card (with the camera′s power switch in the **OFF** position) before beginning to operate the camera. Don′t insert or remove the SD card when the power switch is in the **ON** position. The **KeepGuard Cam** uses a standard SD (Secure Digital) memory card to save photos (in .jpg format) and/or videos (in .asf format). SD and SDHC (High Capacity) cards up to a maximum 32GB capacity are supported. Before inserting the SD card into the card slot after opening the camera's front cover, please make sure that the write-protect switch on the side of the card is ″off″ (NOT in the ″Lock″ position). The following describes how to insert and remove the SD card:

Insert the SD card into the card slot with its label side upwards (see below). A "click" sound indicates that the card is installed successfully. If the wrong side of the card is facing up, you will not be able to insert it without force - there is only one correct way to insert cards. If the SD card is not installed correctly, the device will not display an SD card icon on the LCD in SETUP mode (the SD card icon displayed after switching to SETUP mode will have a ″lock″ symbol inside it if the card is locked). Formatting the SD card by using the **KeepGuard Cam's** "Format" parameter before using it for the first time is recommended, especially when a card has been used in other devices **(see ″Changing Menu Parameter Settings″ for details)**.

To take out the SD card, just gently push in the card (do not try to pull it out without pushing in first). The card is released from the slot and ready to be removed when you hear the click.

**WARNING**

**Be sure the camera′s power is switched OFF before inserting or removing SD cards or batteries.**

## USING THE KEEPGUARD CAM

Once you've prepared your **KeepGuard Cam** by properly installing batteries and an SD card, you could simply take it outside, strap it to a tree, switch it on and leave and you might get some great photos that are exactly what you wanted. However, we highly recommend that you first spend some additional time indoors with this manual and your camera until you know a bit more about what the 3-way switch and those control keys do. If nothing else, you'll probably want to at least set the date and time so the camera will imprint them (or not-it's your option) on your photos as they are taken, learn how to set the camera to shoot video clips instead of still photos if you like, and read some tips about mounting it on a tree.

## THE OFF, ON, AND SETUP MODES

The **KeepGuard Cam** has three basic operational modes:

- **OFF** mode: Power switch in the **OFF** position.
- **ON** mode: Power switch in the **ON** position (LCD screen is off.)
- **SETUP** mode: Power switch at **SETUP** position (LCD screen is on).

### OFF Mode

The **OFF** mode is the "safe" mode when any actions must be taken, e.g., replacing the SD card or batteries, or transporting the device. You will also use **OFF** mode if you connect the camera to a computer′s USB port to download your photos/ videos. When you are storing or not using the camera, you will switch it to **OFF**. Please note that even in the **OFF** mode the **KeepGuard Cam** still consumes power at a very low level. Therefore, it's a good idea to take the batteries out of the battery compartment if the camera will not be used for a long time.

### ON Mode

Any time after the batteries and SD card have been inserted, you can switch on the camera. When the power switch is moved to the top position, the camera will enter into the **ON** (Live) mode. The motion indicator LED will blink red for about 10 seconds. This interval allows time for you to close the **KeepGuard Cam′s** front cover, lock it, and leave the monitored area. Once in the **ON** mode, no manual controls are needed or possible (the control keys have no effect). The **KeepGuard Cam** will take photos or videos automatically (according to its current parameter settings) when it is triggered by the PIR sensor′s detection of activity in the area it covers. You can either move the power switch directly from **OFF** to **ON** mode, or stop at the **SETUP** position first to change one or more settings, then move the switch to **ON** after you

have finished doing so.

**SETUP Mode**

In the **SETUP** mode you can check and change the settings of the **KeepGuard Cam** with the help of its built-in LCD (or a monitor connected to the TV out jack).These settings, found in the SETUP Menu, let you change the photo or video resolution, interval between photos, switch the time imprint on, etc. Moving the power switch to the **SETUP** position will turn on the LCD display, and you will see an information screen that shows how many images have been taken, the battery level, camera or video mode, etc. (**see Fig. 3**).

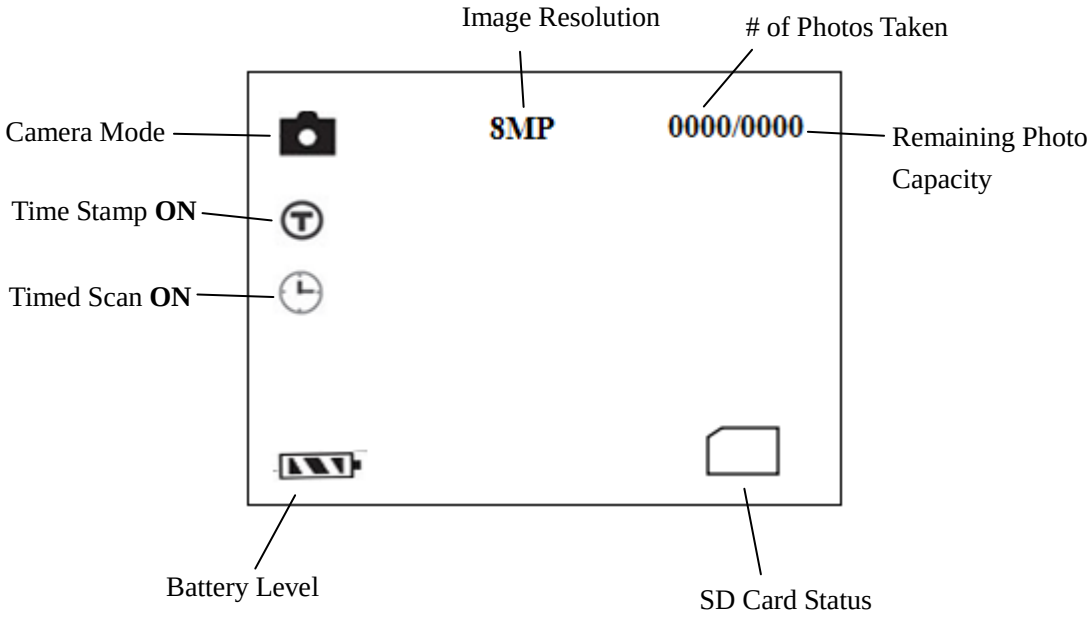
**NOTE: Always move the power switch from OFF to SETUP mode. It is possible that the camera could lock up if it is switched from ON to SETUP mode. If this occurs, simply move the switch to OFF and then push it up to SETUP again.**

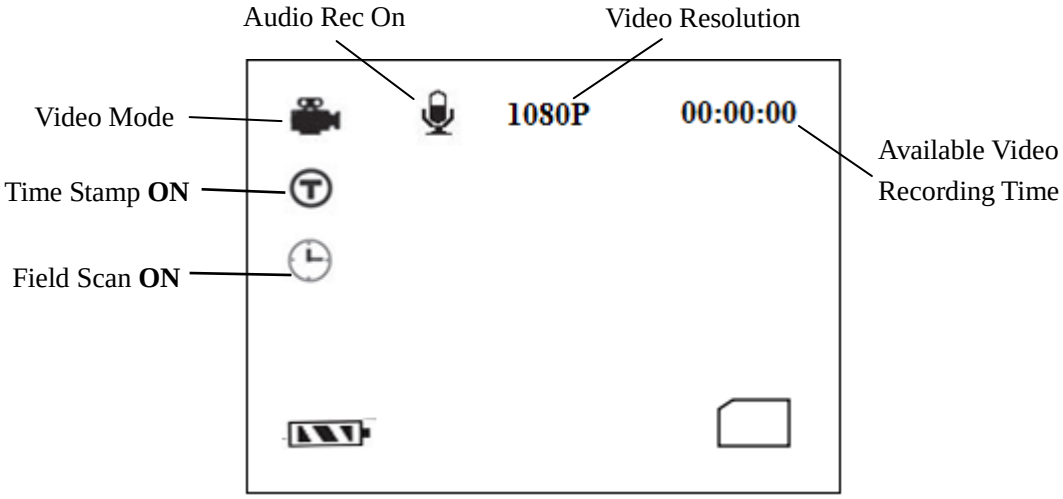
**SETUP Mode Shortcut Keys/Functions**

As mentioned earlier in “Parts & Controls”, four of the keys below the LCD have secondary, "shortcut” functions when the camera is switched to SETUP mode (but the MENU key has not been pressed):

• Press the **UP** key to quickly set the camera to shoot video clips.
• Press the **DOWN** key to quickly set the camera to take still photos.
• Press the **RIGHT** key to manually trigger the shutter. This is useful for testing the camera. Make sure you are in SETUP mode, press the RIGHT key and a few seconds later a photo or video (depending on how the camera was set) will be saved to the SD card (or internal memory if no card is inserted). The “number of images taken” counter on the bottom left of the LCD will increase by one. If the display indicates "SD PROTECTED" when you press the SHOT key, switch the camera OFF, remove the SD card and slide its protect switch off.
• Press the OK key to replay (review or playback) photo/videos on the LCD connected TV monitor. See “playing Back Photos/Videos” for more details.

**Fig. 3: SETUP Information Screen**




## USING THE SETUP MENU TO CHANGE SETTINGS

The main purpose of the **SETUP** mode is to allow you to change the settings of the camera's parameters (15 different ones are available) so your **KeepGuard Cam** operates exactly the way you want it to. You will do this by entering the SETUP Menu and pressing the keys below the LCD display, which will show you each parameter and its setting.

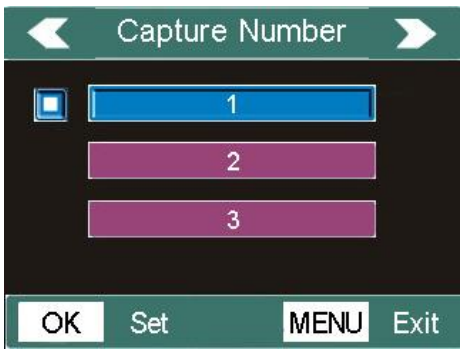
## Changing Parameter Settings in SETUP Mode

A wide range of options or "parameters" are provided to allow you to set **KeepGuard Cam** to your operational preferences. To change the setting of any parameter you must first switch to the SETUP mode. Once in SETUP mode, pressing the **MENU** button will allow you to select any parameter and change its setting. The name of the parameter and its current setting will be shown on the LCD. Pressing the **RIGHT** or **LEFT** key scrolls to the next or previous parameter (**RIGHT** key to move on to the next parameter and **LEFT** key to go back to the previous parameter), and pressing the **UP** or **DOWN** key lets you select a different setting for the currently displayed parameter. Once you have selected your preferred new setting for a parameter, press the **OK** button to save the new setting (actually change it). When you are finished changing the settings of one or more parameters, press **MENU** again to exit the **SETUP** menu. **MENU** can also be pressed anytime you want to cancel changing a parameter's setting after a new setting has been selected (but **OK** has not been pressed yet). After setting the parameters to your preferences, be sure to move the switch to **ON** to begin actually taking photos or videos. No images will be captured if the switch is left in the **SETUP** position (unless you press the **RIGHT/Shot** key after exiting the menu), the camera will power off automatically after a few seconds with no key pressed.

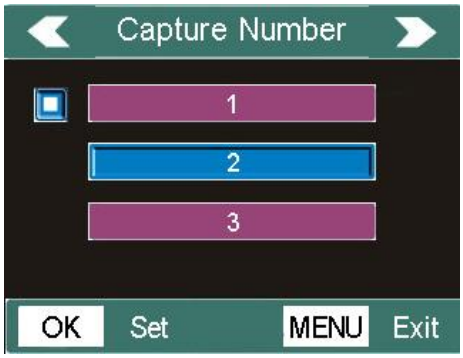
The following shows how to set a parameter on **KeepGuard Cam** models:

- On the color LCD display model, all the available settings for the currently displayed parameter are shown on one screen, with a checkmark next to the current setting (Fig. 4a). To change the setting, first use the **Right /Left** key, then press it until you reach the parameters you want to set, then use **UP/DOWN** keys to highlight (select) the new setting you want (Fig. 4b), then press **OK** to “Set” (“Execute”) the actual change to the selected setting. The checkmark will appear next to your new setting to confirm this (Fig. 4c).

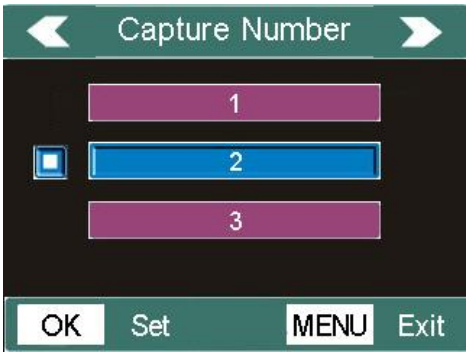
**Fig. 4: Selecting Parameter Settings**




**4A-Press MENU**




**4B-Press DOWN**




**4C-Press OK**

**EXAMPLES - Changing the Settings of Some Common Parameters**
Following this page, you will find tables listing all of the parameters found in the **SETUP** Menu, along with their possible settings (or range of settings), and a detailed description of what the parameter controls and what the settings do. If you read the previous section detailing how to select parameters and change their settings, you should be able to dive right in, find the parameter(s) you want, and setup the camera to your preferences, but maybe you'd rather walk through an example or two first:

To change any parameter's setting, always start with the power switch in the **SETUP** position. After the LCD comes on, press the **MENU** key.

The first parameter you will see when you first enter the **SETUP** Menu is "Mode". To change it from its default setting of "Camera" (still photos) to "Video" (shoot video clips), press the **DOWN** key to highlight "Video" (color viewer models). Press the OK key to "execute" (Set) the new setting you have selected for this parameter.

Now press the **RIGHT** key to move to another parameter in the Menu. Pressing it four times will take you to ″Video Length″. Try using the **UP** and **DOWN** keys to scroll through the range of settings, then press **OK** to lock in your setting for the length of each video clip the camera shoots.

Pressing the **RIGHT** key several more times will get you to the ″Default Set″ parameter. Highlight or select ″Execute″ (using **UP** or **DOWN**) and press **OK** to restore all parameters (including the Mode and Video Length parameters you changed a minute ago) back to their original factory default settings. The default settings for each parameter are indicated in bold type in the **SETUP** Menu tables on the next several pages.

Be sure to set the current date and time, using the ″Set Clock″ parameter if you choose to change the ″Time Stamp″ parameter setting to ″On″ since that will

tell the camera to imprint the date and time on each of the images it captures.

**Timed Scan with Live Trigger Feature**

**Timed Scan** is a revolutionary new feature for the **KeepGuard Cam**, which allows you to monitor your food plots or field edges with time lapse images or video. When set to “On”, the **KeepGuard Cam** will take a photo (or record a video clip) automatically at your choice of intervals (for example, once every five minutes) during one or two blocks of time you set up for each day, **without requiring a trigger from an active animal**. This has the advantage of giving you the ability to monitor the edge of a field that might be 50 or 150 yards away from the camera out of the PIR sensor’s range. The result is an effective range much greater than it would normally be, with the camera dependent on triggers generated by nearby animals. This is a great tool for hunters to scout an entire field with only one camera. If an animal does enter the area covered by the PIR sensor and generate a trigger event during a time in between the **Timed Scan** intervals you set, the camera will capture an image or video just as it normally would, based on your other menu settings. Here’s how to setup and use **Timed Scan** (be sure you’ve set the current time in “Set Clock” first, so your **Timed Scan** recording will stop and start at the correct times of day):

1. Move the main switch to **SETUP**, then press **MENU**.

2. Keep pressing the **RIGHT** key, stepping through the Setup Menu until you reach Timed Scan.

3. Press the **UP** key to select On, and press **OK**. You will see "A", representing the first block of time you can define (a second block of time later in the day, "B" can also be setup if you wish). Press **OK** . This takes you to the screen to set Start and Stop times, which determines the clock times when the first block of Timed Scan recording will begin and end for each day. You can set these times to the exact hour and minute you want, for a recording “window” that lasts anywhere from just a minute to a full 24 hours.

4. Set the [Start] and [Stop] times, beginning with the Start hour, using the **UP/DOWN** keys to change the setting. The hour setting is based on a 24-hour clock, with “00” hours = midnight, “12” hours= noon, “23” hrs. = 11PM, etc. To move to the next setting, press the **RIGHT** key, change the minute for the Start time with **UP/DOWN**, then on to the hour and minute settings for the Stop time.

5. After you finish setting the Stop minutes, press **OK** to confirm your settings for the first block of Timed Scan recording. If desired, you can create a second block of time by pressing the **DOWN** key to select "B"), then press **OK** and follow the same process to set Start and Stop times for Timed Scan block "B” .

As an example of how you might use these two available time blocks, you could setup Timed Scan time block "A" for the dawn hours from 6 AM to 8 AM, and block "B" to capture images between 5:30 and 7 PM. No Timed Scan recording would occur from 8 AM to 5:30 PM, or from 7 PM to 6 AM.

*6.* After setting Start/Stop times to define Timed Scan block "A" and/or "B", press **OK**, then press the **UP** or **DOWN** key to select "Interval" and press **OK** *(Step 6)*. The Timed Scan "Interval" setting lets you control how often a photo or video clip is recorded during the block(s) of time you defined with the Start and Stop settings. Your options are 60 minutes, 30 minutes, 15 minutes, 5 minutes (this is the default), or 1 minute (still photo mode only). Use the **UP/DOWN** keys to select your preference, then press OK to save it *(Step 7).*

Note: for videos, "Interval" is independent of the Length of each video recording - it's **how often** videos are recorded, not how long each one lasts.

7. Here's an example of how the camera would operate, based on the following Timed Scan settings:

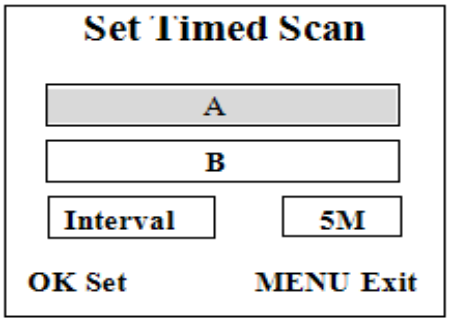
**Timed Scan:** On
**Timed Scan A:**
**[Start]:** 6:00
**[Stop]:** 8:00

**Timed Scan B:**
**[Start]:** 17:30
**[Stop]:** 19:00
**Interval:** 15M

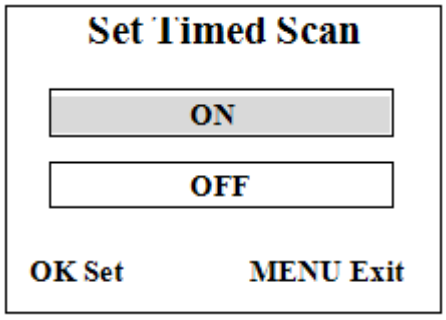
These settings would cause the camera to capture a photo (or video, if the camera is set to that mode) once every 15 minutes, beginning at 6 AM, until the Timed Scan "A" recording block stops at 8:00 AM. Later that day, the camera would again take a photo or video every 15 minutes between 5:30 PM and 7:00 PM (during Timed Scan time block "B"). The next day, the camera would again record an image or video once every 15 minutes between 6:00 and 8:00 AM, and between 5:30 and 7:00 PM. No Timed Scan recording would occur from 8 AM to 5:30 PM, or from 7 PM to 6 AM. Remember, Timed Scan recording is independent of normal triggers due to animal activity–even if no animals enter the IR sensor coverage zone, an image or video will still be captured every 15 minutes during the block(s) of time. If an animal triggers the camera "in between" the 15 minute intervals, it will be recorded, same as it would if you had setup the camera with Timed Scan turned Off.

**Note:** Timed Scan settings of frequent intervals and/or long periods between

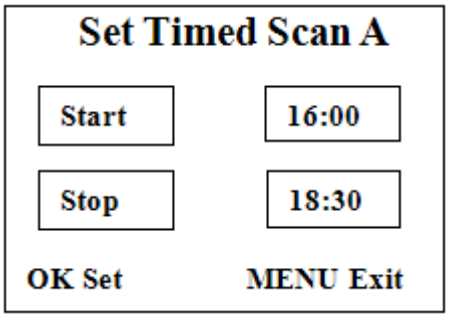
start and stop time can reduce battery life.




Step1: Set Timed Scan to "**ON**"




Step 2: Press **OK** to select **A** or **B** . and set the Interval




Step 3: Set start and stop time

## The SETUP Menu Parameters and Settings List Descriptions

| **Parameter** | **Settings** (Bold=default) | **Description** |
|---|---|---|
| **Mode** | **Camera**<br>Video<br>Dual | Selects whether still photos or video clips are captured when the camera is triggered. |
| **Image Size** (only affects still photos) | 8M Pixel<br>**5M Pixel**<br>3M Pixel | Selects resolution for still photos from 3 to 8 megapixels. Higher resolution produces better quality photos, but creates larger files that take up more of the SD card capacity (fills up faster). **5M** is a good compromise between quality and file size. |
| **Image Format** | **Full screen**,<br>Wide screen | Select 4:3 (Full screen, like old TV sets) or 16:9 (wide screen, like new flat TVs ) "aspect ratio" for still photos on a TV set or computer monitor, you can set the format to match it. |

| | | |
|---|---|---|
| **Capture Number** (only affects still photos) | **1 Photo**<br>2 Photo<br>3 Photo | Selects how many photos are taken in sequence per trigger in Camera mode. Please also refer to the Interval parameter. |
| **IR LED Control** (multi-Flash feature) | **High**, Medium, Low | Controls how many LED lamps fire when images are taken in low light. ”High” = all 32 LEDs fire, which is the default setting. Set to medium or Low if you are getting overexposed flash photos or will place the camera at very close range to the subjects you want to photograph. In general, select High if most of your intended subject will cover 30ft. range, and Low for subjects less than 15ft. away. **Note: in video mode, 24 LEDs fire in both High & Medium (default) setting. Set to low if videos are overexposed.** |
| **Camera Name** | **Input**<br>(See ”Using the Setup Menu Input Screens”) | Allows the user to set a custom name for the camera. Useful for ID purposes when multiple cameras are setup, since each camera will imprint its name on all photos (but not videos) it captures. |
| **Video Size** (only affects video clips) | **1920X1080;**<br>1280X720;<br>848X480 | Selects video resolution (in pixels per frame). Higher resolution produces better quality videos, but creates larger files that take up more of the SD card capacity (fills up faster). **640x360** is VGA video in standard 4:3 format. |
| **Video Length** (only affects video clips) | **10S** (second) (default, with 5S to 60S, possible range) | Sets length per captured video clip. Settings begin with 10 second default when parameter is first selected. After stepping down to 5S, video length settings start over at 60S. |

| | | |
|---|---|---|
| **Interval** | **10S** (second) (default, with a 60M (minute) to 1S (second) range of settings available.)<br><br>(60M-1M are set in one minute increments, 59S-1S are set in one second increments) | Selects the length of time that the camera will "wait" until it responds to any additional triggers from the PIR after an animal is first detected and remains within the sensor's range. During this user set "ignore triggers" interval, the camera will not capture photos/ videos. This prevents the card from filling up with too many redundant images. Settings begin with 10 second default when parameter is first selected. **Note: after setting down past 1S, settings start over at 60M.** |
| **Sensor Level** | Normal, High, Low, **Auto** | Selects the sensitivity of the PIR sensor. The "High" setting will make the camera more sensitive to infrared (heat) and more easily triggered by motion, and the "Low" setting makes it less sensitive to heat and motion. The High setting can be useful when the ambient temperature is warm (making it more difficult for the sensor to detect animals), and the Low setting may help in cold weather if the camera is being triggered too often by anything warmer than the surroundings. |
| **Time Period Set** | ON;**OFF** | This parameter defines a certain time period in a day when the camera can be triggered, while the rest of the time the device is shut off. The effective value ranges from 00:00 to 23:59. |
| **Format** | Execute (followed by an additional No/Yes) | Deletes (erases) all files stored on a card to prepare it for reuse. Always format a card that has been previously used in other devices. **Caution! Make sure you have downloaded and backed up any files you want to preserve first!** Press **OK** to execute (then select **Yes** and press **OK** again on color viewer models), press **MENU** (or select **NO** then press **OK**) to exit without formatting. |

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| **Time Stamp** (only affects still photos) | OFF, **On** | Select ″On″ if you want the date & time (that the photo was captured) imprinted on every photo, select ″Off″ for no imprint. |
| **Set Clock** | Set | Press **OK** and use the **UP/DOWN** keys (to change the setting) and **LEFT/RIGHT** keys (to move to the next field) to set the hour (24-hr format only, ″00″ = midnight, ″12″ = noon and minute, and then (on the lower row), the year, month and date. |
| **Set Timed Scan** | On, **OFF** | Select "on" if you want the camera to shot at a specified internal. You can set "start" time, "stop" time and "internal". Select "off" if you don't want to use the timed scan. |
| **Coordinate Input** | ON,**OFF** | Allows the user to input latitude and longitude coordinates for the camera's location. This will be embedded in the files saved on the camera's SD card (if "ON" is selected). This makes it possible to see each camera's location as a "pushpin" on Google Earth maps when reviewing a folder full of photos from multiple cameras, or use other "geotag" capable software (Picass, etc.) |
| **Set Video Sound** | **On**, OFF | Press "on" and the camera will record the sound when in video mode. Press "off" and the sound will be turned off. |
| **Image Recycle** | ON,**OFF** (NOTE: Setting Image Recycle is not recommended when using 16GB or higher capacity SD cards) | Select "ON" if you want the oldest photos/videos to be replaced by new images once the SD card is full. Select "OFF" if you want operation to stop when the card is full. |

| | | |
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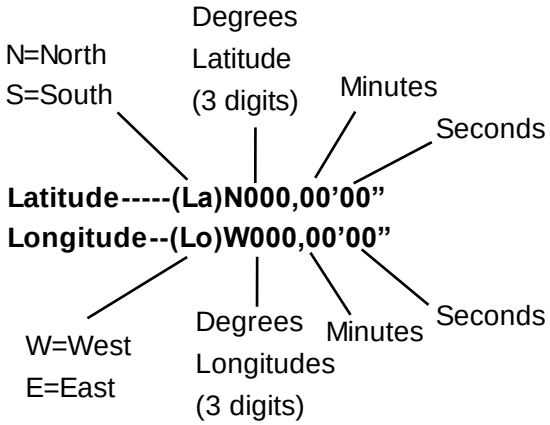
| **Password** | ON,**OFF** | Select "on" to set a password then input the password. Select "off" to close the password function. |
| **Default** | **Cancel**, Execute | Select ″Execute″ and press **OK** to restore all parameters to the original factory default settings. If the camera is behaving oddly and you think you may have changed the setting for something accidently (but aren′t sure which one), this will reset all parameters to their most commonly used or “generic” settings. |

**Camera Name Input**

After selecting the Camera Name parameter (the only setting is “Input”), press OK. If necessary delete the previous or default name by pressing the RIGHT key until the backspace symbol “←” is highlighted then keep pressing OK. Select (highlight) each alphanumeric character you want using the LEFT/RIGHT keys and pressing OK after each one to set it. When finished naming the camera press MENU to save the name to memory.

**Coordinate Input**

After selecting the Coordinate Input parameter press UP or DOWN to select the ON setting and press OK. The Latitude and longitude for any location where you plan to place the camera can be obtained at many websites, for example: http://itouchmap.com/latlong.html. You can enter a nearby street address, zip code or use the various types of maps to locate the approximate position. The format you will need to use to enter the coordinates in the KG780NV menu screen is shown on the next page:




## MOUNTING AND POSITIONING the KEEPGUARD CAM

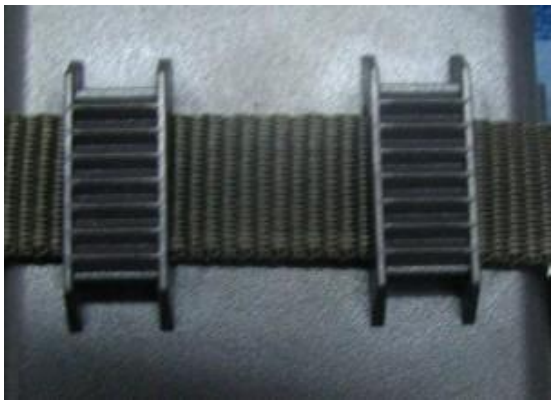
### Mounting

After you′ve set up the camera′s parameters to your personal preferences at home or in your truck, you′re ready to take it outside and slide the power switch to ″ON″. When setting up the **KeepGuard Cam** for scouting game or other outdoor applications, you must be sure to mount it in place correctly and securely. We recommend mounting the **KeepGuard Cam** on a sturdy tree with a diameter of about 6 in. (15cm). To get the optimal picture quality, the tree should be about 16-17 ft. (5 meters) away from the place to be monitored, with the camera placed at a height of 5-6.5 ft. (1.5~2 m). Also, keep in mind that you will get the best results at night when the subject is within the ideal flash range, no farther than 45′ (14m) and no closer than 10′ (3m) from the camera.

There are two ways to mount the **KeepGuard Cam**: using the provided adjustable web belt, or the tripod socket.

**Using the adjustable web belt: Fig. 5** illustrates using the web belt on the **KeepGuard Cam**. Push one end of the belt through the two brackets on the back of the **KeepGuard Cam**. Thread one plastic buckle part onto each end of the belt. Fasten the belt securely around the tree trunk by clicking the buckle ends together after tightening the belt so there is no slack left.

**Fig. 5: Attaching the Belt**



**Using the tripod socket :** The camera is equipped with a socket at the bottom end to enable mounting on a tripod or other mounting accessories with a standard 1/4-20 thread.

**Sensing Angle and Distance Test**

To test whether the **KeepGuard Cam** can effectively monitor the area you choose, this test is recommended to check the sensing angle and monitoring distance of the **KeepGuard Cam**. To perform the test:

- Switch the **KeepGuard Cam** to the **SETUP** mode.
- Make movements in front of the camera at several positions within the area where you expect the game or subjects to be. Try different distances and angles from the camera.
- If the motion indicator LED light blinks, it indicates that position can be sensed. If it does not blink, that position is outside of the sensing area.

The results of your testing will help you find the best placement when mounting and aiming the **KeepGuard Cam**. The height away from the ground for placing the device should vary with the animal size appropriately. In general, 3 to 6 feet is preferred.

You can avoid potential false triggers due to temperature and motion disturbances in front of the camera by not aiming it at a heat source or nearby tree branches or brush (especially on windy days).

**Switching ON the Camera**

Once you switch to the **ON** mode, the motion indicator LED (red) will blink for about 10 seconds. This gives you time to close and lock the front cover of the **KeepGuard Cam** and then walk away. During this time, the motion indicator LED will blink red continuously. After it stops blinking, the PIR is active, and

any motion that is detected by it will trigger the capture of photos or videos as programmed in the **SETUP** Menu. Be sure you have read the descriptions of the Capture Number, Video Length, Interval and Sensor Level parameters. Please note, the PIR is strongly sensitive to ambient temperature. The greater the temperature difference between the environment and your subject, the farther the possible sensing distance. The average sensing distance is about 45 ft.

**Before leaving the camera unattended, please check for the following:**

• Are the batteries or DC power supply inserted/connected with correct polarity and is the power level sufficient?

• Does the SD card have sufficient available space and is its write-protection (lock) switch off?
• Is the Power switch in the **ON** position? (do not leave it in **SETUP)**.

## PLAYING BACK/DELETING the PHOTOS/VIDEOS

After you have setup, mounted and activated your **KeepGuard Cam**, you will of course be eager to return later and review the images it has captured for you. There are several different ways this can be done.

### Reviewing Images on the KeepGuard Cam LCD (Models with Color Viewer only)

• Put the power switch in **SETUP** mode (switch to **OFF** first).
• Push the **OK (Replay)** key to enter image review mode.
• Use the **UP/DOWN** keys to scroll through your photos or videos. The right corner of the display will indicate ″JPG″ for still photos, and a film icon for video files. Press the **RIGHT (Shot)** key to review a video.
• Push **MENU** to delete an image. Image delete mode works as described below. To exit image review mode, press the **OK** key.

### Reviewing Images on an External Video Monitor

A TV monitor can also be used to play back pictures (or videos) from the device. Connect a TV monitor or a viewing device (such as a digital picture frame) that has a standard composite video input (RCA jack) to the **KeepGuard Cam**′s ″TV Out″ mini jack using the supplied cable. Then:

• Put the power switch in **SETUP** mode (switch to **OFF** first).
• Press the **OK** key. The most recently captured image will be shown on the video monitor. For video clips, press the **SHOT (RIGHT)** key to start playing, press again to stop.

• Press the **UP** key for the previous photo or video and the **DOWN** key for the next one. When viewing images, the total number of all images in the SD card and the index of the displaying image are shown in the center of LCD and at the bottom of the video monitor respectively.
• Press the **OK** key to return to live preview state (**SETUP** mode) when playback is finished.

**Deleting Photos or Videos**

If you see a photo or video during playback on the LCD or video monitor that you want to delete, it can be done easily without leaving **SETUP** mode:
• Press the **MENU** key. You will see the first ″Delete″ screen, which lets you select the option to delete only the currently displayed photo/video, or all photos/videos (see below).
• Highlight the ″Delete Current″ or ″Delete All″ option, then press **OK.**
Next, select ″Yes″ and press **OK** to erase only the last displayed photo or video (if you selected ″Delete Current″), or every photo and video file on the card (if you selected ″Delete All″ or select ″No″ and press **OK** to cancel the operation without deleting any files.

**NOTE: After deleting a picture or a video file, the deleted files can′t be restored! It is also possible to delete all files from the card by using the Format parameter.**

**Reviewing Images Directly From the SD Card**

This is the most popular method of viewing images. Unmounting the camera and taking it to your computer isn′t very convenient, you may find it easier to

just take the card out. By removing the SD card (swapping it for a new empty card if you like) and taking it to your home or campsite to view the images by using an SD card ″reader″ (user supplied) connected to your computer (some computers and TVs have a built in SD card slot), you can leave the camera in place ready to capture more images. Once connected, the card reader works the same way as described below. Please read that section if you have any problem finding your files.

**Reviewing Images by Connecting the Camera to a Computer**

You can always unmount the entire camera from the tree and connect its USB port to a computer and it will be recognized as a ″removable disk″, without the need to install any drivers or software. When using a PC (or Mac) to view photos (or video clips), first connect the device to the computer with the supplied USB cable. Then use commercial software with an image browser feature, or an image browser included with the PC's operating system to view images saved on the SD card in the folder \DCIM\100EK113. Each new image or video will be numbered incrementally in order of the time it was captured. For example, you will see file names such as “PICT0001.JPG” or “PICT0001.ASF”. Through the file format suffix you can distinguish whether the file is a still photo (with suffix .jpg) or a video (with suffix .asf).

***″.ASF″ video files may require additional software for viewing on a Mac**

The **KeepGuard Cam** supports 3 kinds of file system formats, FAT12, FAT16, and FAT32. The default value is FAT16 to save photos and videos. Here are some related notes:

- You don′t need to be concerned about the file system format of the **KeepGuard Cam** unless your equipment has problems reading the SD card. If this happens, please format the SD card with the **KeepGuard Cam** or in your computer first and then insert the card into your **KeepGuard Cam** and try again.
- The default file system format of the **KeepGuard Cam** is FAT16, which most computers can read. If you format an SD card for the **KeepGuard Cam** in your computer, you should choose the file system format FAT16. Normally FAT16 is recommended unless you have another image viewer that uses FAT12 or FAT32 format.

## DOWNLOADING THE PHOTOS/VIDEOS

To download your photos/videos to a PC or Mac, first make sure the **KeepGuard Cam** power switch is in the **OFF** position. Connect the supplied cable to the camera′s USB port, then directly to a main USB port on your computer. Do not use front panel/keyboard USB ports or unpowered ″hubs″.

The **KeepGuard Cam** will be recognized as a standard ″USB Mass Storage″ device (this may take several seconds the first time you connect it). If you would rather leave your camera in the woods and just pull its SD card out, an SD card reader works the same way as described in this section once the card is inserted and the reader is connected to your computer.

With Windows XP or later, you can then simply use the options in the pop-up window to copy, view, or print your photos (**right**).

On all Windows OS, the **KeepGuard Cam** will also be listed as a ″Removable Disk″ if you open the ″My Computer″ window (on Macs, an icon will appear on your desktop). The **KeepGuard Cam′**s photo files are named″PICT0001.JPG″etc, and are located in the ″DCIM\100EK113″ folder on this ″Removable Disk″. Video file names will end with ″.ASF″. You may copy the photos/videos to your hard drive as you would any file. Just copy/paste or drag the file names or icons to your drive or desktop.

After the photos are copied to your hard drive, you can disconnect the **KeepGuard Cam**. (On Mac computers, drag the ″disk″ that appeared on your desktop when the camera was connected into your Trash to ″eject″ it before disconnecting.) The .jpg standard files from the **KeepGuard Cam** may be viewed and edited with any photo software you choose to use. The **ASF** video files may be viewed with Windows Media Player (version 7 or later) as well as other video playback programs that may have been supplied with your computer, or are available online.

***″.ASF″ video files may require additional software for viewing on a Mac.**

# Troubleshooting / FAQ

## Battery life is shorter than expected

**1.** Battery life will vary with operating temperature and the number of images taken over time. Typically, the **KeepGuard Cam** will be able to capture several thousand images before the batteries die.
**2**. Check to make sure you have used new alkaline or lithium batteries. KeepGuard recommends using 8 Energizer Lithium AA batteries in all KeepGuard Cams to obtain maximum battery life.

**3**. Make sure that the power switch was turned to the ″On″ position and that the camera was not left in ″Setup″ mode while in the field.
**4**. Make sure that you are using a good quality name brand SD card in your camera. KeepGuard recommends SanDisk® brand SD Cards up to 32GB. Our experience indicates that poor quality SD cards can sometimes reduce your KeepGuard Cam battery life.

## Camera stops taking images or won't take image

**1**. Please make sure that the SD card is not full. If the card is full, the camera will stop taking images.
**2.** Check the batteries to make sure that they are new alkaline or lithium AA batteries. See note above about short battery life.
**3**. Make sure that the camera power switch is in the ″On″ position and not in the ″Off″ or ″Setup″ modes.
**4.** Make sure that you are using a good quality SD card in your camera. KeepGuard recommends SanDisk® SD Cards up to 32GB.
**5.** If the SD card has its write protect switch in the lock position, the camera will not take images.
**6.** If you have used an SD card in another device before inserting it in your KeepGuard Cam, you might want to try formatting the card using the ″Format″ parameter in Setup mode (make sure you have backed up any important files first, as formatting will erase all previous files). In some cases, other devices may change the formatting of the SD card so that it will not work properly with the KeepGuard Cam.

## Camera won't power up

**1.** Make sure that you have installed at least 4 batteries (the required minimum #) in the battery compartment, starting at the top, filling battery spaces 1-4 with no ″gaps″. KeepGuard recommends using 8 Energizer⊕ Lithium AA batteries in all KeepGuard Cams.
**2.** Make sure that the batteries are installed correctly, observing proper

polarity. Always place the negative (lat) end of each battery in contact with the spring side of its slot inside the camera.

**3.** After moving the switch from ″Off″ to ″Setup″ or ″On″, make sure that the switch is correctly in position to ensure the proper mode (avoid positions ″between″ two modes).

**4.** Do not move the switch directly from ″On″ to ″Setup″- always move the switch all the way down to ″Off″ first, then back up to ″Setup.″

**Still Photo and/or Video Quality Problems**

**1. Night photos or videos appear too dark**

**a.** Check the battery indicator icon to see if battery power is full. The flash will stop operating near the end of the battery life.

**b.** You will get the best results when the subject is within the ideal flash range, no farther than 45′ (14m) from the camera Subjects may appear too dark at greater distances.

**c.** Please note that when the Capture Number parameter is set higher than ″1 Photo″, or with very short Interval settings, some images may appear darker than others due to the quick response and rapid retriggering of the camera, allowing less time for the flash to fully recharge before firing again.

**2. Daytime photos or videos appear too dark**

**a.** Make sure that the camera is not aimed at the sun or other light sources during the day, as this may cause the auto exposure to produce darker results.

**3. Night photos or videos appear too bright**

**a.** You will get the best results when the subject is within the ideal flash range, no closer than 10′ (3m) from the camera. Subjects may appear too light at closer distances.

**4. Daytime photos or videos appear too bright**

**a.** Make sure that the camera is not aimed at the sun or other light sources during the day.

**5. Photos with streaked subject**

**a.** In some cases with low lighting conditions and fast moving subjects, the 5MP or 8MP resolution settings may not perform as well as the 3MP setting.

**b.** If you have multiple images where fast moving subjects produce streaks on the photo, try the 3MP setting instead.

**6. Red , green or blue color cast**

**a.** Under certain lighting conditions, the sensor can become confused resulting in poor color images.

**b.** If this is seen on a consistent basis, then the sensor may need servicing. Please contact KeepGuard customer service.

**7. Short video clips--not recording to the length set**

**a.** Check to make sure that the SD card is not full.

**b.** Make sure that the camera has good batteries in it. Near the end of the battery life, the camera may choose to record shorter video clips to conserve

power.

**Date/Time Stamp not appearing on images**

Make sure that the ″Time Stamp″ parameter is set to ″On″.

**Photos Do Not Capture Subject of Interest**

**1.** Check the ″Sensor Level″ (PIR sensitivity) parameter setting. For warm environmental conditions, set the Sensor Level to ″High″ and for cold weather use, set the sensor for ″Low″.
**2.** Try to set your camera up in an area where there is not a heat source in the camera′s line of sight.
**3.** In some cases, setting the camera near water will make the camera take images with no subject in them. Try aiming the camera over ground.
**4.** Try to avoid setting the camera up on small trees that are prone to being moved by strong winds.
**5.** Remove any limbs which are right in front of the camera lens.

**PIR Sensor LED Flashes/Doesn′t Flash**

**1.** When the camera is in the ″Setup″ mode, a special LED on the front of the camera will flash when it senses motion. This is for setup purposes only and will help the user aim the camera.
**2.** During use, the LED will not flash when the camera takes an image. This is to help keep the camera hidden from game.

**LCD Screen Issues**

**1. LCD screen powers on but no text is present**.
**a.** After moving the switch from ″Off″ to ″Setup″ or ″On″, make sure that the switch is correctly in position to ensure the proper mode (avoid positions ″between″ two modes).
**b.** Do not move the switch directly from ″On″ to ″Setup″ - always move the switch all the way down to ″Off″ first, then back up to ″Setup″.
**2. LCD screen shows a faint black line after turning from ″Setup″ to ″On″.**
**a.** The LCD will turn off when you slide the switch to the ″On″ position. In some cases, this black line will appear and then fade in about 1 second. This is normal and the camera will function properly.
**3. Screen comes on but then powers off**
**a.** Make sure that you have installed the SD card correctly.

**Camera won't retain settings**

**1.** Make sure that you have been saving the changes to any parameter settings that you made while in Setup mode, by pressing ″OK″ after changing the setting. If you don't save your new setting after changing it, the camera will continue to use the original default setting for that parameter.

# KG780 TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Image Sensor | 5 Megapixel Color CMOS |
| Lens | f=7.45mm;FOV=55°;F/NO:2.8; Horizontal View Angel = 42°; Auto IR-Cut-Remove (at night) |
| IR-Flash Range | 60'-75'(20m-25m) |
| Display Screen | 1.5 inch Std B&W Display ; 2.4 inch Color Display |
| Memory Card | SD or SDHC Card, Maximum capacity 32GB |
| Internal RAM | 32M |
| Image Size | 8MP ( 3264×2448); 5M(2592X1944); 3M(2048X1536) |
| Image Recycle | ON/OFF |
| Image Format | Full Screen/Wide Screen |
| Video Size | 1920X1080;1280X720; 848X480 |
| PIR Sensitivity | PIR with 3 sensitivity levels: High/ Normal/ Low/Auto |
| IR LED Control | High/Medium/Low |
| Operation | Day/Night |
| Response Time | <0.8s |
| Triggering Interval | 1sec-60min programmable |
| Shutter Speed | 1/10-1/2000sec. |
| Shooting Numbers | 1-3 programmable |
| Video Length | 5-60sec. programmable |
| Power Supply | 8×AA recommended;4×AA as emergency power |
| Stand-by current | <0.28mA |
| Power Consumption | <200mA(+600mA when IR-LED Lighted) |
| Timed Scan | 2X;programmable |
| Temperature Display | programmable |
| Password | programmable |
| Camera Name | Input |
| Moon Display | programmable |
| Audio Video | programmable |
| User Interface | LCD display |

| | |
|---|---|
| Interface | TV out(AVI);USB;SD card holder; 6V DC external |
| Security | Strap;1/4-20 attachment |
| Operating Temperature | -20-60 °C (Storage temperature: -30-70 °C ) |
| Operating Humidity | 5%-90% |
| Security Authentication | FCC/CE/RoHs/WEEE |